

Claims

What is claimed:

1. A cellular wireless re-use communication system comprising:
a base transceiver station cluster, the base transceiver station cluster comprising:
a first plurality of base station transceivers; and
a plurality of common channel areas, each common channel area having a
unique set of common assigned channels;
each common channel area comprising at least one subscriber unit, each
subscriber unit within the common channel area receiving information signals from a
second plurality of base station transceivers through one of the set of common assigned
channels that correspond to the common channel area.
2. The cellular wireless re-use communication system of claim 1, further comprising a
plurality of base transceiver station clusters.
3. The cellular wireless re-use communication system of claim 1, wherein each
common assigned channel comprises a common transmission characteristic.
4. The cellular wireless re-use communication system of claim 2, wherein the
common transmission characteristic is a transmission frequency.

1 5. The cellular wireless re-use communication system of claim 2, wherein the
2 common transmission characteristic is a transmission time.

6. The cellular wireless re-use communication system of claim 2, wherein the
2 common transmission characteristic is a transmission code.

1 7. The cellular wireless re-use communication system of claim 2, wherein the
2 common transmission characteristic is at least one of: a frequency-division, a time-
3 division, a spatial-division, a code-division, orthogonal frequency division multiple access
4 (OFDMA), wavelength division multiple access (WDMA), wavelet division multiple
5 access techniques.

1 8. The cellular wireless re-use communication system of claim 1, wherein the second
2 plurality of base station transceivers generating signals within the common assigned
3 channel corresponding to the common channel area of a corresponding subscriber unit, are
4 located within the common channel area.

1 9. The cellular wireless re-use communication system of claim 1, wherein at least one of
2 the second plurality of base station transceivers generating signals within the common
3 assigned channel characteristic corresponding to the common channel area of a
4 corresponding subscriber unit, are located outside of the common channel area.

1 10. The cellular wireless re-use communication system of claim 1, wherein the
2 subscriber unit receiving information signals from a second plurality of base station
3 transceivers through a one of the set of common assigned channels, allows for spatial
4 multiplexing.

1 11. The cellular wireless re-use communication system of claim 1, wherein the
2 subscriber unit receiving information signals from a second plurality of base station
3 transceivers through a one of the set of common assigned channels, allows for
4 communication diversity.

1 12. The cellular wireless re-use communication system of claim 1, wherein the
2 communication diversity comprises transmitter diversity.

1 13. The cellular wireless re-use communication system of claim 1, wherein the
2 communication diversity comprises receiver diversity.

1 14. A cellular wireless re-use communication system comprising:
2 a plurality of base transceiver station clusters, each base transceiver station cluster
3 comprising:
4 at least one base station transceiver; and

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5 at least one common channel area, each common channel area having a unique set
6 of common assigned channels;

7 each common channel area comprising at least one subscriber unit, each subscriber
8 unit within the common channel area receiving information signals from a second plurality
9 of base station transceivers through a one of the set of common assigned channels that
10 correspond to the common channel area.

1 15. A method of transmitting multiple information signals to at least one subscriber
2 unit within a cellular wireless re-use communication system, the system comprising a base
3 transceiver station cluster, the base transceiver station cluster comprising a first plurality of
4 base station transceivers, and a plurality of common channel areas, each common channel
5 area having a unique set of common assigned channels, each common channel area
6 comprising at least one subscriber unit, the method comprising:

7 a second plurality of base station transceivers transmitting information signals
8 through one of the set of common assigned channels that correspond to the common
9 channel area; and

10 each subscriber unit within the common channel area receiving information signals
11 from the second plurality of base station transceivers through the one of the set of common
12 assigned channels that correspond to the common channel area.

1 16. The method of transmitting multiple information signals to at least one subscriber
2 unit within a cellular wireless re-use communication system of claim 15, wherein each
3 common assigned channel comprises a common transmission characteristic.

1 17. The method of transmitting multiple information signals to at least one subscriber
2 unit within a cellular wireless re-use communication system of claim 16, wherein the
3 common transmission characteristic is a transmission frequency.

1 18. The method of transmitting multiple information signals to at least one subscriber
2 unit within a cellular wireless re-use communication system of claim 16, wherein the
3 second plurality of base station transceivers transmitting signals within the common
4 assigned channel corresponding to the common channel area of a corresponding subscriber
5 unit, are located within the common channel area.

1 19. The method of transmitting multiple information signals to at least one subscriber
2 unit within a cellular wireless re-use communication system of claim 16, wherein the
3 second plurality of base station transceivers transmitting signals within the common
4 assigned channel corresponding to the common channel area of a corresponding subscriber
5 unit, are located outside of the common channel area.

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